Significant Reduction in the Number of Fungal Infections After Lung-, Heart-Lung, and Heart Transplantation Using Aerosolized Amphotericin B Prophylaxis


Fungal infections are severe complications after lung- (LTx), heart-lung- (HLTx), or heart transplantation (HTx). This study was carried out to evaluate the efficacy of aerosolized amphotericin B (ampho) on the incidence of posttransplant fungal infections.

Patients and Methods
Since July 1993, amphotericin B (5 mg TID to be increased up to 20 mg TID within 5 days after surgery) has been given as inhalation throughout the posttransplant hospital stay. This group consists of 126 patients (mean age 39.8 years, 79 men, 47 women, 22 LTx, 27 HLTx, and 75 HTx). The incidence and spectrum of fungal infections were compared with a similar cohort of 101 patients (=control, mean age 40.0 years, 73 men, 28 women, 12 LTx, 12 HLTx, and 77 HTx) who were transplanted within a similar time period before introduction of ampho-prophylaxis. Both groups received the same triple-drug immunosuppressive protocol. The two groups were compared with regard to the spectrum of fungal, bacterial, viral, and protozoal infections as well as the incidence of acute rejection and level of renal function. The two-tailed t test was used to compare the linearized rate of events after the first 3 and 12 months, and the Gehan-test was used for statistical comparison of the actuarial incidence data in both groups.

Results and Comment
The linearized rate/patient of all infections (nl), fungal infections (FI), aspergillus (Asp), and candida (Can) infections after the first 3 or 12 months are listed in Table 1. There was a significant reduction in the rate of fungal- and aspergillus infections in the patients belonging to the ampho-group when compared to the control group in both time intervals. In addition, the actuarial incidence curves for FI and Asp infections showed a significantly decreased incidence of events in the ampho-group when compared to the control group (P < .005 vs control) over the same follow-up period (Figs 1 and 2). These results compare favourably with those after bone marrow transplantation,

Table 1. The Linearized Rate/Patient of all Infections (nl), Fungal Infections (FI), Aspergillus (Asp), and Candida (Can) Infections After the First 3 or 12 mo After Lung-, Heart-Lung, and Heart Transplantation in Patients Receiving Amphotericin B Prophylaxis Compared to the Control Group Without Ampho

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<tr>
<td></td>
<td>nl</td>
<td>FI</td>
<td>Asp</td>
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<tr>
<td>Amphotericin B</td>
<td>0.75</td>
<td>0.08†</td>
<td>0.00†</td>
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<td>Control</td>
<td>0.82</td>
<td>0.20</td>
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Amphotericin B - Control not significantly different in both groups. The only side effect observed in the ampho-group was a mild nausea in 10 cases (7.9%), which led to discontinuation of treatment in 2 cases (1.6%).

CONCLUSION

In this study, the actuarial incidence and linearized rate of fungal infections, and particularly aspergillus infections were significantly reduced in the group receiving aerosolized amphotericin B prophylaxis after LTx, HLTx, and HTx. The treatment was generally well tolerated and had no adverse effects on the incidence of acute rejection or on renal function.

REFERENCE